WP71 Comments for the XTD2 beam line review, Rooms 1-7 Dec 2014

In Red: New comments from Feb 11, 2015

WP71 requests gave rise for this beamline review. The installation of the electron beamline must keep step with the installation of the undulator system. ‘Dirty’ installation work, must be finished by March 2015 or the ‘clean’ installation phase of the undulator system cannot start. This must have highest priority.

Only Rooms 1-7 were investigated. The other rooms are of no concern for WP71. Data collection, EDMS downloading, opening models etc. is very time consuming. The models are incomplete and are behind previous ones. This is a pity.

For the February 12 Review only rooms 2 and 6 were investigated. For the other rooms (3-6) there are no updated models.

# Room 01

* There is the electron beamline with pillars and/or supports. Seems for me ok.

# Room 02

* The first two cells are ready to receive undulators, but only intersections will be installed –no undulators. The first intersection right before the first installation space is missing. As agreed with W. Decking only a concrete pillar and the granite base plate will be installed. They are missing. Has been added!
* For Information: The concrete pillar plus granite base plate are already purchased. The first pillar is already installed. The model is behind reality. They are now closer to reality!
* The electron beam line is partially incomplete, components are missing. There are new ones.
* The Schottwand seems ok.
* The alignment pipe starts somewhere not in phase with the room in the intersection between installation space #1 and #2. Remember they are left empty.
* Coordinated by J. Prenting the laser setup for the alignment system is planned by Zeuthen. Its transversal space is limited by the undulator for the seeding option. This needs coordination with WP71. In case of collisions there are alternatives: Either one extends the laser pipe so that the laser is before the start of the undulator, or one reverses the direction and put the laser at the end and the camera at the beginning.

The alignment laser should be ready for installation by the end of February 2015. I have doubts whether this is realistic. The installation is not possible with the vacuum chamber installed.

Meanwhile the alignment pipe has been installed in XTD2. It starts only after the first two cells to provide the space for the laser alignment system by Zeuthen. This delivery is delayed until March. In these two cells the vacuum chamber cannot be installed until the alignment pipe is in place. This will cause additional delays.

# Room 03-05

No updated models available

* Alignment pipe not in phase with the rooms. But start and end points for different rooms are matching. Nevertheless this makes individual comparisons in rooms difficult.
* The undulator vacuum chambers are missing, they were present in previous models
* There are two different colored concrete pillars: Blue ones in Room 04 and white ones in room 3. Does this have any meaning?

# Room 06

Room 6 is available in DG3

* In end of Room 06 there on the 37th installation space the 35th undulator is installed (Remember #1 and #2 are empty). Seems to be ok.
* A full intersection with components, but without phase shifter is planned, but missing in the model. It is agreed with W. Decking. These intersection components are already purchased, the concrete pillar is already installed. Model is behind reality. Must be updated.  
  This has been added correctly
* Some “air supported” intersection components are shown over the missing intersection: BPM, Pumping unit, Quadrupole. They seem, however, to fit with the base plate  
  removed!
* COLLISION: There is a yellow column with a vacuum pump, which collides with the concrete pillar  
  removed
* The electron beam line extend further into room 07
* The enclosure panels for the air condition (Schottwände) of this room extend to Room 07
* Schottwände, electron beamline and Vermessungsrohr do not follow Room limits.   
  Seems better, were there changes ?

# Room 07

* It contains the PKG. In the model there is no collision with the Vermessungsrohr.
* The electron beam line starts in the last quarter. There are several magnets without supports/pillars some meters downstream of the PKG.
* Electron beamline from Room06 fits.
* Enclosure panels for room 07 are found in room 06 model

No DG3 model available, no comment.

# Summary

* The models are not complete, parts, which were included in previous ZM1 supported models are missing. Examples: Vacuum chambers with their supports, special intersections before and after the undulator systems…
* The room limits should apply to Vermessungsrohr, electron beamline and the enclosure panels.
* There are supports for the electron beam line missing, Room06/07

There are noticable improvements. The alignment pipe continues to be a schedule risk, since it is not complete yet.

# Conclusion

Inside the SASE1 undulator system: It is already in construction. The models are behind reality. Installation can be continued. No new points were found.   
Outside the undulator system things are different. In the electron beam line before and after the undulator the already installed intersections are missing. There is a collision with the support of a vacuum pump downstream of the undulator system. There are unsupported magnets. There need to be solutions asap or the undulator installation must be stopped starting in March 2015. There is a severe risk of delay!  
Please contact in case of questions: Tel 3242

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